TITLE 326 AIR POLLUTION CONTROL BOARD

Proposed Rule
LSA Document #11-317

DIGEST

Amends 326 IAC 1-2-2.5 and 326 IAC 4-1-7 concerning refractory-lined box type air curtain destructors. Effective 30 days after filing with the Publisher.

HISTORY

First Notice of Comment Period: June 1, 2011, Indiana Register (DIN: 20110601-IR-326110317FNA).

Second Notice of Comment Period: November 16, 2011, Indiana Register (DIN: 20111116-IR-326110317SNA).

Notice of First Hearing: November 16, 2011, Indiana Register (DIN: 20111116-IR-326110317PHA).

Change in Notice of Public Hearing: December 21, 2011, Indiana Register (DIN: 20111221-IR-326110317CHA).

Change in Notice of Public Hearing: March 7, 2012, Indiana Register (DIN: 20120307-IR-326110317CHA).

Date of First Hearing: May 2, 2012.

PUBLIC COMMENTS UNDER IC 13-14-9-4.5

IC 13-14-9-4.5 states that a board may not adopt a rule under IC 13-14-9 that is substantively different from the draft rule published under IC 13-14-9-4 until the board has conducted a third comment period that is at least 21 days long. Because this proposed rule is not substantively different from the draft rule published on November 16, 2011, at DIN: 20111116-IR-326110317SNA, the Indiana Department of Environmental Management (IDEM) is not requesting additional comment on this proposed rule.

SUMMARY/RESPONSE TO COMMENTS FROM THE SECOND COMMENT PERIOD

IDEM requested public comment from November 16, 2011, through December 16, 2011, on IDEM's draft rule language. IDEM received comments from the following parties:

Air Burners, LLC (AB)

Following is a summary of the comments received and IDEM's responses thereto:

Comment: 326 IAC 4-1-7(a)(5) reads as if an air curtain burner (destructor) can't be located at either a landfill or transfer station. The commenter suggests that the "1,000 foot rule" might better read "when located at a landfill or transfer station the air curtain burner (destructor) will be located 1,000 feet from any combustible source material." One of the advantages of the air curtain burner in addition to its pollution control properties is the fact that it reduces dependence on landfills for the disposal of woody debris. This extends the landfill life and reduces gas releases from decomposing wood waste rotting in the landfill, including methane, a very undesirable greenhouse gas. (AB)

Response: The purpose for not allowing the operation of an air curtain destructor at or near a landfill is to prevent the possibility of igniting an underground fire fueled by either the buried waste or the gases produced by the buried waste. The air curtain destructor is not intended to be permanently located at a site. It is intended to be located at a job site to dispose of the clean wood waste or vegetation derived from clearing a specific project site. Approval to operate an air curtain destructor at a specific job site is not valid for more than one year. Operating an air curtain destructor at a specific job site, for disposal of clean wood waste or vegetation derived from that site, eliminates the need to haul this waste to either a transfer station or landfill for disposal. Windrowing, mulching, chipping, and salvaging marketable material are alternatives to burning. In addition, tree waste may be placed in ponds or lakes for fish habitat provided this method complies with other local, state, and federal requirements. In summary, the operation of an air curtain destructor at a transfer station or landfill is prohibited because of fire hazard, operating time is limited, and there are other methods of disposal which would prevent the material from going to a landfill while being environmentally acceptable.

Comment: The commenter suggests deleting the specifications for minimum average air velocity and air flow at the nozzles at 326 IAC 4-1-7(a)(11)(D) of the draft rule language in the Second Notice of Public Comment Period, because the trench burner's (or the above ground air curtain burner's) adequate performance should be gauged by opacity and/or particulate matter (PM) measurement which are indicators of the pollution control effectiveness of the machine, the purpose of using and regulating the air curtain burner in the first place. (AB)

Response: Minimum velocity and air flow were established in order that the unit would operate at 0% opacity and ensure minimal or no PM emissions. The unit creates a curtain of air passing over the burning material striking the opposite wall so that the air tumbles downward in the pit, thus, it entraps and entrains the smoke (unburned fuel) back into the burning process. The curtain of air also provides oxygen to the burning process for complete combustion of the material in the pit. Also, 326 IAC 4-1-7(a)(11)(D), (326 IAC 4-1-7(a)(12)(D) in the draft

rule), applies to pit burners, not above ground units. Above ground units are regulated under 326 IAC 4-1-7(13) of the draft rule in which IDEM is proposing that the unit be operated according to the manufacturer's specifications and recommendations. In summary, requiring a minimum velocity and air flow eliminates opacity and PM emission issues.

Comment: It should be IDEM's best interest to permit and regulate machines based on newer technologies that may drastically reduce fuel consumption, PM (black carbon) and non-biogenic carbon dioxide (CO_2) emissions from the unit's diesel engine by downsizing the engines. By mandating very specific design parameters you may limit Indiana to old technology. (AB)

Response: IDEM supports new technologies that have been proven to better safeguard the environment and health of its citizens. As new technologies to control air emissions become available, IDEM takes appropriate actions to incorporate them into the regulatory process. The size and type of engine used to operate an air curtain destructor may be one factor in achieving the acceptable velocity and air flow; however, it has been reported that the pitch of the fan blades have been found to be a critical factor in achieving increased velocity. On the other hand, if a "squirrel cage" is used, you can only increase velocity by turning the "squirrel cage" faster (i.e., increasing motor speed). In this rulemaking IDEM is proposing that newly designed above ground self-contained metal box type units are required to follow manufacturer's recommendations instead of design parameters specified in the rule.

Comment: The commenter suggests deleting the specification at 326 IAC 4-1-7(a)(11)(I) of the draft rule language in the Second Notice of Public Comment that all nozzles must be aligned such that the air strikes the opposite trench wall three feet from the top edge or below. The air flow angle is important in reducing PM release and measuring the true air curtain angle is an elaborate process that cannot be accomplished accurately in the field. (AB)

Response: The air curtain destructor is positioned at the top edge of the pit (whether dug into the ground or metal fabrication) so that the nozzles are directed towards the opposite wall. Since the nozzles are stationary, they should be positioned during the manufacture of the unit so that when the unit is on flat, level ground, the nozzles are positioned such that air flow would strike the opposite wall (when positioned on site) three feet below the grade upon which the unit is located. When the pit is dug, the unit may be lifted or lowered from the rear to achieve the acceptable angle of air flow. This angle is easier to achieve when using a metal fabricated pit with an air curtain since topography would not be as critical as when digging a pit. When fabricating the metal pit, the air curtain should be positioned (when operating) to comply with all parameters. In summary, measuring the angle is not an elaborate process since this can be accomplished during the manufacturing of the metal pit and unit. The correct angle can be achieved when using an earthen pit by adjusting the height of the rear of the unit. Also, 326 IAC 4-1-7(a)(11), (326 IAC 4-1-7(a)(12) in the draft rule), applies to pit burners, not above ground units. Above ground units are regulated under 326 IAC 4-1-7(13) of the draft rule in which IDEM is proposing that the unit be aligned and directed toward the opposite wall so that the air strikes the opposite wall without the three foot from the top edge requirement.

Comment: The air curtain angle needs to be measured at the center of the nozzle jet stream. With the proper measurements, a "3 foot" requirement is wrong and will cause the ash bed to be fluidized with the resulting PM release rising significantly. If the manufacturer designs the air curtain correctly and the air curtain angle correctly, the opacity will be less than 10% and the PM release will be equally low. An acceptable PM emissions factor would be 2 pounds of PM releases per 1 ton of wood waste combusted. Other states, such as Florida, are guided by this emissions factor. (AB)

Response: If the pit is dug properly, the air curtain is properly positioned, and the nozzles are in alignment, all measurements along the nozzle action should ensure that the air strikes the opposite wall at the required three feet location. The manufacturer's design of the air curtain will ensure compliance with all required parameters such as velocity, air flow, etc. Issues with the fluidization of the ash bed have not been observed during the operation of air curtain destructors in Indiana; however, should future, reliable and valid test data prove otherwise, IDEM will take appropriate action. In summary, the parameters established in the air curtain destructor rule for pit units remain acceptable.

SUMMARY/RESPONSE TO COMMENTS RECEIVED AT THE FIRST PUBLIC HEARING

On May 2, 2012, the Air Pollution Control Board (board) conducted the first public hearing/board meeting concerning the development of amendments to 326 IAC 1-2-2.5 and 326 IAC 4-1-7. No comments were made at the first hearing.

326 IAC 1-2-2.5; 326 IAC 4-1-7

SECTION 1. 326 IAC 1-2-2.5 IS AMENDED TO READ AS FOLLOWS:

326 IAC 1-2-2.5 "Air curtain destructor" defined

Authority: IC 13-15-2-1; IC 13-17-3-4
Affected: IC 4-21.5; IC 13-12; IC 13-17-9

Sec. 2.5. **"Air curtain destructor" means** an engineered apparatus consisting of a motorized high-velocity fan and an air distribution system designed to aid in the efficient combustion of materials placed in an adjacent **earthen** pit **or refractory lined box.** An air curtain destructor is not considered an incinerator as defined in section 34 of this rule.

(Air Pollution Control Board; 326 IAC 1-2-2.5; filed Jan 6, 1989, 3:30 p.m.: 12 IR 1126)

SECTION 2. 326 IAC 4-1-7 IS AMENDED TO READ AS FOLLOWS:

326 IAC 4-1-7 Air curtain destructors; approval conditions

Authority: IC 13-15-2-1; IC 13-17-3-4
Affected: IC 4-21.5; IC 13-12; IC 13-17-9

Sec. 7. (a) To obtain an air curtain destructor letter of approval, the owner or operator shall ensure that installation and operation of ~~such~~ **the** air curtain destructor will comply with subdivisions (1) through ~~(22) as follows.~~ **(13).** Burning shall be terminated immediately at any air curtain destructor site that does not comply with this section **and the following requirements:**

(1) Only untreated wood products shall be burned, except for minimal amounts of uncontaminated petroleum products that may be used for ignition.

(2) Burning shall not be conducted during unfavorable meteorological conditions, such as high winds or air stagnation or when a pollution alert or ozone action day has been declared.

(3) The air curtain destructor shall not be operated prior to one (1) hour after official sunrise, the fire shall not be fed after two (2) hours before official sunset, **and** the fire must be completely extinguished by official sunset. ~~and at least one (1) foot of dirt must be placed over the ashes in the pit by official sunset.~~

(4) An air curtain destructor site shall be located ~~no~~ **not** less than two hundred fifty (250) feet from any private residence, public roadway, power line, or structure, and ~~no~~ **not** less than five hundred (500) feet from any pipeline or fuel storage area.

(5) An air curtain destructor site shall not be located within one thousand (1,000) feet of a solid waste land disposal facility as defined in 329 IAC 10-2-176 or transfer station as defined in 329 IAC 11-2-47.

(6) An air curtain destructor shall not be permanently located at any site, **except in accordance with a valid permit under 326 IAC 2.**

(7) An air curtain destructor shall be attended at all times while burning and until combustion is complete. Adequate firefighting equipment shall be maintained at an air curtain destructor site at all times during operation.

(8) Burning shall not create or contribute to:

(A) an air pollution problem;

(B) a nuisance; or

(C) a fire hazard.

(9) Material being loaded into the earthen pit or refractory-lined box shall be picked up and dropped into the pit or box, and at no time shall the material protrude through the curtain of air while burning.

(10) The approval letter shall be made available at the burning site to state or local officials upon request.

(11) The owner or operator of an air curtain destructor shall provide twenty-four (24) hour notification in advance to the local fire department and the local health department of the dates and times that the air curtain destructor will be in operation.

~~(9)~~ **(12) The following shall apply to an air curtain destructor using an earthen pit:**

(A) An air curtain destructor and **earthen** pit shall be maintained and operated according to the manufacturer's specifications and recommendations.

~~(10)~~ **(B)** The fan blades of the air curtain destructor shall be regularly cleaned to reduce buildup of dirt and debris.

~~(11)~~ **(C)** All canisters must be properly aligned, connected, and maintained so as to prevent leaks between adjacent canisters.

~~(12)~~ **(D)** The nozzles must be maintained in good working condition. The minimum average velocity at the nozzle must be nine thousand fifty (9,050) feet per minute, and the air flow at the nozzle must be a minimum

of seven hundred fifty (750) cubic feet per minute per foot of length.
~~(13)~~ **(E)** The engine running the air curtain destructor fan must be maintained in proper working condition.
~~(14)~~ **(F)** The width of the **earthen** pit shall not extend beyond the length of the nozzle action.
~~(15)~~ **(G)** The distance from the air curtain destructor to the opposite wall of the **earthen** pit shall not exceed ten (10) feet.
~~(16)~~ **(H)** The depth of the **earthen** pit shall be of such distance to allow all burning material to be below the curtain of air created by the air curtain destructor.
~~(17)~~ **(I)** All nozzles shall be aligned and directed toward the opposite wall so that the air strikes the opposite wall at least three (3) feet below the grade upon which the air curtain destructor is located so that the air tumbles in the **earthen** pit.
~~(18)~~ **(J)** The air curtain destructor shall not be at a higher elevation than the elevation of the opposite wall.
~~(19)~~ **(K)** The **earthen** pit shall be enclosed on four (4) sides, and the walls shall be perpendicular to level ground.
(L) At least one (1) foot of dirt must be placed over the ashes in the earthen pit by official sunset.

~~(20) Material being loaded into the pit shall be picked up and dropped into the pit, and at no time shall the material protrude through the curtain of air while burning.~~
~~(21) The approval letter shall be made available at the burning site to state or local officials upon request.~~
~~(22) The owner or operator of an air curtain destructor shall provide twenty-four (24) hour notification in advance to the local fire department and the local health department of the dates and times that the air curtain destructor will be in operation.~~

(13) The following shall apply to a portable air curtain destructor using a refractory-lined box:
(A) An air curtain destructor, refractory-lined box, and associated equipment shall be maintained and operated according to the manufacturer's specifications and recommendations.
(B) All nozzles shall be aligned and directed toward the opposite wall so that the air strikes the opposite wall below the top of the opposite wall.
(C) Access to the refractory-lined box must be restricted by official sunset each day.
(D) Opacity shall not exceed ten percent (10%), except during times of startup. Measurement of opacity shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9.*
(E) During times of startup, opacity shall not exceed thirty-five percent (35%) and startup periods shall not exceed thirty (30) minutes.

(b) An air curtain destructor letter of approval shall be valid for ~~no~~ **not** longer than one (1) year.

(c) The commissioner or the commissioner's designated agent may add conditions to an air curtain destructor letter of approval as necessary to prevent a public nuisance or protect the public health.

(d) A decision on the air curtain destructor letter of approval is subject to IC 4-21.5 (Administrative Orders and Procedures Act (AOPA)).

***This document is incorporated by reference and is available from the Government Printing Office, 732 North Capitol Avenue NW, Washington, D.C. 20401 or is available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.**

(Air Pollution Control Board; 326 IAC 4-1-7; filed Jan 6, 1989, 3:30 p.m.: 12 IR 1127; filed Jul 30, 1996, 2:00 p.m.: 19 IR 3345; errata filed Oct 3, 2000, 2:31 p.m.: 24 IR 381; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477)

Notice of Public Hearing

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